



Fire Protection Training

Procedures Handbook 4300

PUMPING

TOPIC: HOW TO PUMP FROM DRAFT, CDF ENGINE MODEL #10 OR #12

TIME FRAME: :30

LEVEL OF INSTRUCTION: Level II

BEHAVIORAL OBJECTIVE:

Condition: A CDF Model #10 or #12 engine, properly chocked and set up to draft, with spring brake set, transmission in neutral, an empty water tank, a predetermined engine pressure of 150 PSI and the following items and conditions: Tank suction valve open, tank fill valve closed, a preconnected 100 foot length of 1 ½" or 1 ¾" hose with nozzle attached laying on the ground.

Behavior: The student will: Start the engine, prime the pump, obtain a draft, engage the main pump, charge an 1 ½" or 1 ¾" line, and deliver an uninterrupted stream of water to a simulated fire using a drafting tank as a water source. The student will then return the apparatus to its original condition.

Standard: With a minimum of 70% accuracy within 1 minute and 10 seconds, according to the job breakdown

MATERIALS NEEDED:

- One (1) CDF Model #10 or #12 engine with an empty water tank
- One (1) 100' length of 1 ½" or 1 ¾" hose with nozzle and shut-off
- Three (3) Sections of hard suction hose
- One (1) Suction hose strainer
- One (1) Shovel
- One (1) 15' length of rope
- One (1) Stop watch
- One (1) Performance examination per student
- Two (2) Red pens for scoring
- One (1) Clipboard
- One (1) Tally sheet

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REFERENCES:

- Vehicle Operation and Maintenance Guide, (CDF Handbook 6804)

PREPARATION:

In rural settings it is often not possible to locate a hydrant system as a water source for fire suppression activities. Alternative water sources such as rivers, lakes, ponds, or swimming pools may have to be utilized in these cases. The quickest method of obtaining water from these sources may be by drafting. The ability to draft from an external water source is a basic engine operator skill.



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HOW TO PUMP FROM DRAFT, CDF
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OPERATIONS

KEY POINTS

1. Place foot on service brake
2. Start main engine

TIME START

3. Set engine idle
4. Close tank suction valve
5. Engage primer

6. Start pump engine
7. Adjust pump panel throttle

8. State "Water coming"
9. Open discharge valve
10. Adjust pump panel throttle

TIME STOP

- 3a. At 1200 RPM
 - b. \pm 200 RPM
- 4a. Completely
 - 5a. 30 seconds maximum
 - b. Look for continuous flow from primer
 - c. Listen for change of pitch
 - d. Feel for weight of water in hard suction
- 7a. To indicate 100 PSI on the pump pressure gauge.
 - b. \pm 20 PSI
 - c. If prime lost, return engine to idle, shut off pump and repeat steps 3 through 6
- 8a. Loudly
- 9a. Slowly
 - b. Completely
- 10a. To indicate 150 PSI on the pump pressure gauge
 - b. \pm 20 PSI

Student raises hands to indicate completion of the timed portion of the examination

Failure to produce an effective fire stream will be cause for failing the examination.



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OPERATIONS

KEY POINTS

11. State "Shut down"

11a. Loudly

12. Close discharge valve

12a. Slowly

b. Completely

13. Adjust pump panel throttle

13a. Slowly

b. Until pump engine returns to idle

c. For approximately 30 seconds

14. Shut off pump engine

15. Return to cab

15a. Place foot on service brake

16. Reduce main engine RPM

16a. Slowly

b. To idle

17. Shut off main engine



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APPLICATION:

The student will practice until proficient.

EVALUATION:

A performance examination.

ASSIGNMENT:

To be determined by instructor(s).



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